

**REMARKS**

Claims 20-50 are pending in the application. Claims 20-50 stand rejected. C Applicant thanks the new Examiner for the recent informal discussion regarding the pending claims. Claim 24 has been amended.

**Claim Rejections – 35 USC § 103**

The Examiner has rejected claims 20-23, 25-40, and 46-49 “under 35 U.S.C. 103(a) as being unpatentable over *Loan et al. (US 6,136,725)*.” Office Action, page 4. Applicant requests reconsideration in light of the amendments to the claims and in light of the arguments below.

Applicant chooses to begin by discussing the dehydration element of the claims. All pending claims involve or include a dehydration step. The Examiner has stated, with regard to *Loan*, that “the chamber is evacuated and purged with an inert gas repeatedly (column 15 lines 49-67 and column 16 lines 1-6) either during a processing state or a standby state.” Office Action, page 5.

*Loan* discloses, in the Columns and lines cited by the Examiner, that during “cleanup of the vaporizer”, the “isolation valve 42 isolates the entire vaporization subsystem 12 from the other subsystems.” Thus an isolated vaporization subsystem is being cleaned. After introduction of the argon gas, “step 343 evacuates the pressure in the vaporization chamber 26, by opening valve 170”. A review of Figures 1A and 1B of *Loan* show that the valve 170 leads to exhaust from the entire system. In sum, the steps here are not geared towards dehydration, but to cleaning of the vaporization chamber. Further, motivation aside, there is simply no teaching of “inserting a substrate into a process chamber” and “dehydrating said substrate”, as recited in claim 20 (emphasis added). The steps of *Loan* cited by the Examiner simply do not involve the process chamber in which the substrate would reside.

Independent claims 20 and 40 are thus allowable over this reference for at least this reason, as are all other pending claims, at least for the reason of their dependence upon claims 20 or 40. Thus, although each of the subsequent rejections enumerated by the Examiner have not been directly addressed, they are all viewed as having been responded to by nature of the arguments regarding the two independent claims in the application.

The Examiner has also stated, with regard to *Loan*, that “(t)he pressure is adjusted for each process step (column 13, lines 22-29). This reads on the second pressure being higher or lower than the first pressure.” Office Action, pages 4-5. Applicant asserts that the Examiner has mis-characterized the reference. Discussion of the first pressure and the second pressure occurs in claims 25-29, all in the context of dehydration. *Loan* simply does not discuss dehydration, and thus this very general reference in the cited reference to process parameters cannot be seen as a disclosure with regard to these claims. Further, the Examiner has stated that “(s)ilane is taught to be one of the reactants”. Applicant disputes this characterization. The cited reference refers to silane, the gas SiH<sub>4</sub>, and not to vaporized silanes, and liquid silanes, as cited in this application and its claims.

Applicant reserves the opportunity to revisit arguments regarding the coating of a substrate with the vaporized chemical.

Applicant believes that that arguments related to the independent claims, as discussed above, form a complete response to all other rejections based upon the dependence of all other claims to these independent claims. Applicant requests withdrawal of all rejections, and further requests allowance of all pending claims.

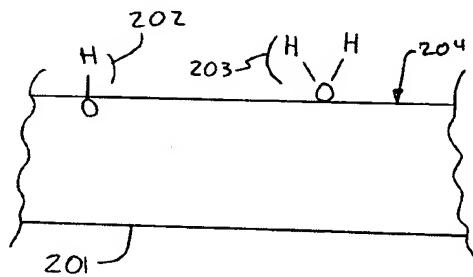
#### **Telephonic Interview**

A telephonic interview was conducted on February 21, 2008, between the Examiner, Attorney Michael Guth, and inventor William Moffat. Applicant concurs with the summary

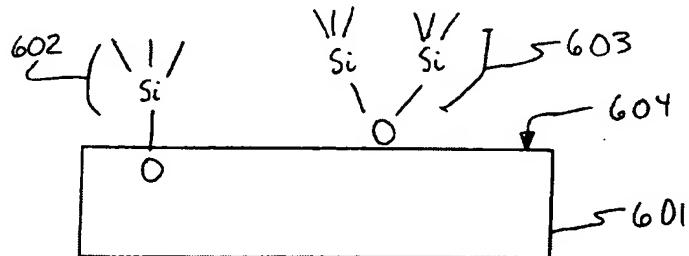
of the Substance of Interview supplied by the Examiner, reproduced below, and add further detail regarding the discussion afterwards.

The dehydration step of claim 20 and similar claims was primarily discussed in regards to Loan. The applicant argued that after thorough review of Loan, the language of the cited column in the rejection indicates that a vaporization chamber, not the a chamber that holds a substrate, is undergoing purging and evacuation steps. The examiner agreed to consider the arguments in a formal response to the non-final office action.

Further, the discussion centered on aspects of the dehydration step in the process. Drawings illustrating the discussion were faxed to the Examiner and are included here.



The figure above illustrates a water molecule 203 on the surface of a substrate, and also a hydroxyl ion 202 embedded in the substrate.



The figure above illustrates silane molecules that have attached to the embedded hydroxyl (602) and to the surface moisture (603). The inventor discussed with the Examiner the differences between the two cases, mentioning that the case 602 is a much more secure bond, whereas the case 603 is subject to loss of that portion of the silane layer upon subsequent processing including exposure to moisture.

## **Summary**

Applicant has addressed all rejections. Applicant asserts that all claims are in a condition for allowance and respectfully requests allowance of all claims. If the Examiner should have any questions regarding this response, the Examiner may contact the undersigned at (831) 462-8270.

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Respectfully submitted,



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